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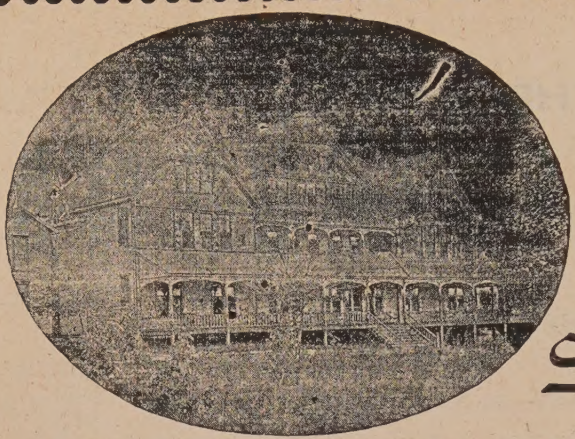

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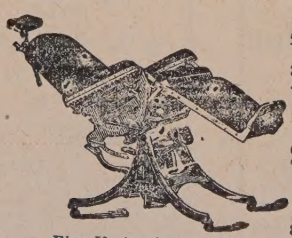

Fig. V—Semi-Reclining.

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DIPHTHERIA.

[ORIGINAL.]

Intubation.

BY L. H. MUNN, M.D., TOPEKA.

Read at the December meeting of the Topeka Academy of Medicine and Surgery.

Last Friday our president requested me to give at this meeting a brief resume of my experience with intubation. He thought five or ten minutes would suffice, and as I kept no report of my cases I feel that the time allowed will be ample indeed. I fear that what I can say will be of little benefit to you.

About four years ago I was called to Sixth and Buchanan streets with the advice to come prepared for a tracheotomy. Upon arrival found Drs. Grubbs, Boam and Lindsay. It was a typical case. The peculiar croupous respiration, recession of the chest-walls, cyanosis of the lips, restlessness, absence of vesicular murmer, etc.—briefly, a case of laryngeal stenosis demanding air.

The child (about 4 years of age) was restrained and supported by the father, and the promptness and skill with which Dr. Lindsay inserted the tube excited my admiration. The immediate relief of symptoms were most gratifying to the family and witnesses. The little patient who before the operation was sleepless, laboring for breath, suffering tortures, was soon left sleeping quietly and afterward made a good recovery.

The favorable impressions from this case determined me to try it myself when opportunity should present, and since then have introduced tubes in ten cases—in one case having to return the tube three times and in two others twice, making in all fifteen introductions. Of these cases four recovered and six died. One had ceased to breathe while we were preparing, but I immediately introduced the tube, practiced artificial respiration, gave a hypodermic of strychnia, and had the satisfaction after some minutes of seeing the breath come again, and finally resting in quiet sleep. This child died thirty-six hours after from extension of the exudate downwards.

Another case in which, after assurances that the operation in itself was not dangerous, was being placed in position on its father's shoulders, stopped breathing. We quickly introduced the tube and practiced every effort, but without effect—it never breathed again. This child had suffered from dyspnœa about four days and probably succumbed from exhaustion—heart stopping with that last gasp.

The oldest case in my short series was ten years, and the youngest twenty months. Tracheotomy was not performed on any of them, though in all, from my former experiences, it was indicated, that is, for temporary relief.

Numerous practical accidents are reported from intubation, and theoretical difficulties may be contemplated, but I can say that thus far I have been fortunate. In none have I lost the tube in the stomach, but this would be of less importance if one has another tube. A serious accident happened in my first case by the tube falling through the ventricular bands into the larynx. The case was a boy four years of age with stenosis probably from diphtheritic origin. After making several unsuccessful attempts to place the tube, I attributed failure to the large size of the tube selected and took a smaller one, which after awhile I introduced.

At this early time I found I could not assume the facility of Dr. Lindsay and must practice often ere I could hope to rival his dexterity. The case did well for forty-eight hours, respirations dropped to 30, temperature 100°. About the fourth day there was a rise of temperature and respiration increased to 45. Thinking that this was probably due to some obstruction in the tube attempted its removal, and after several efforts found that it could hardly be felt by my finger. Consequently, after allaying the anxiety of the parents, I sought the assistance of my friend, Dr. Guibor, who, with the skill of O'Dwyer himself, removed the tube and my alarm in the same few minutes. The dyspnœa continued. The parents objected to tracheotomy, which was debated, and the child died two hours later —probably of pneumonia.

There are other accidents incident to intubation, but I am impressed that most of them do not warrant much apprehension—they are discussed to an extent they hardly deserve.

One case, a boy of six, strong, robust little fellow, was interesting because having decided that a tube was absolutely necessary from apparently typical laryngeal stenosis, he bent the strong mouth-gag and finally he broke its hinge. By the time another gag was procured his respiration was so much improved that the operation became unnecessary, and he made a good and uneventful recovery. I do not include this case in my ten.

Regarding the technique of intubation and its indications, it is assumed that all here are familiar with the routine. But the thing that has caused me most anxiety after placing the tube is when to remove it—how long shall it be left in the larynx?

I have learned that you can have no absolute rule. One case needed it only three days, another twenty-one days. Circumstances in each individual case will govern. One case that recovered had tube removed on the seventh day, again on the thirteenth day, each time having to replace it within an hour or two on account of dyspnœa. Finally on my way to the house on the twenty-first day to remove the tube for the third time, I found he had just coughed it up and had no further use for it.

There is not, as a rule any difficulty in feeding those patients that do at all well—they soon learn to swallow solid and semi-solid food. Liquids do go down the tube but are immediately coughed up, and possibly by the cough excited do good by keeping the tube free and clean. If the child be placed with its head lower than its body and made to suck up liquids there is usually very much less trouble. Most writers say none, but this is not my experience.

As to the merits of the two operations now practiced for the relief of laryngeal stenosis —tracheotomy and intubation—I will say that up to four years ago I had made fifteen tracheotomies for stenosis of probable diphtheritic origin and had fifteen deaths. And observed the doubt in the parents' minds that if I had withheld the knife those little ones might have been with them still.

Tracheotomy has its field, but that field is very much circumscribed by the newer operation. Where formerly one hundred cases required tracheotomy, ninety-six can be intubated, and the other four, if for some special reason they demand it, can be tracheotomized. Here is a little sufferer in the agonies of gradual strangulation; its chest rising and falling with its efforts to get air into its lungs; eyes starting; throwing itself from side to side of the bed; clutching at its throat as if to tear out the obstruction to its breathing? What is to be done? Atomizing sprays, steam from solvents, turpentine, calomel sublimations, etc., etc., have been tried—still the symptoms grow worse. Now at this crisis the physician can say to the anxious family that intubation, without blood or the knife, and long before complete exhaustion, will in 95 per cent. of cases give air, and with air the only chance the little one has for life. And the statistics are better for intubation, 30 to 34 per cent.—20 to 24 per cent. for tracheotomy.

It is my intention to continue intubating. I am more than satisfied so far with the results. The operation in some cases has been extremely easy of performance. At other

times, when the "polarity" has not been as I could have wished, it has not been such a simple matter. I feel that our main function in life is the relief of suffering. Measured by this standard what a feeling of satisfaction Joseph O'Dwyer must have.

Bacteriologic Diagnosis of Diphtheria.

BY GIVEN CAMPBELL, M.D., ST. LOUIS.

Professor of Bacteriology in the Marion-Sims College of Medicine.

Medical Mirror.

Now, when we seem to be on the verge of a new era in the treatment of diphtheria, a treatment which to give the splendid results claimed for it, must be instituted not later than forty-eight hours from the beginning of the disease, the question of an early diagnosis becomes a very important one.

There has been some discussion as to whether diphtheria can be accurately and certainly diagnosticated by a study of the bacillus which produces it, and whether this diagnosis can be made promptly enough to be of value to the physician who is treating the case. Looking at the subject in the light of the most recent bacteriological research, we can answer yes to both questions.

The germ which produces diphtheria is now generally admitted to be the Klebs-Lœffler bacillus. This is a straight or slightly curved rod-shaped organism, about as long as the tubercle bacillus and twice as thick. It is peculiar in that the rods in a culture vary considerably in size, and that many of them take irregular forms, some of them being swelled to several times their thickness at either end or in the middle. Examined in the fresh or living state the rods have refractive spots at either extremity, and when the bacillus is stained these spots show darker than the remaining parts of the germ. The bacillus, however, does not form spores.

These bacilli are always present and are usually very abundant in diphtheritic false membranes. If a little of the secretion be scraped off the false membrane and spread on a cover glass and stained with Lœffler's solution of methyline blue, very beautiful preparations of the bacillus will be obtained and it will be present in larger numbers than any other organism; while if the throat affection be non-diphtheritic in origin the streptococcus pyogenes is usually found in great numbers, and it is unusual to find any organism resembling the bacillus of diphtheria.

Clinically, then, the non-diphtheritic sore throats are almost always produced by a streptococcus, the chains of which are totally different from the thick rod-shaped bacillus of diphtheria; and where a secretion is examined and found to contain large numbers of organisms, such as have been described, and very few if any streptococci, the probability that the case is diphtheria amounts almost to a certainty.

To render the diagnosis absolutely certain, however, more has to be done. Cultures must be made from the throat, and their behavior in the different culture media and in the body of the susceptible animal must be ascertained.

In order to separate the germ out in pure culture, use is made of the fact that it grows much more abundantly than any ordinary mouth bacteria on a culture medium which is called Lœffler's blood serum mixture, which consists of blood serum three parts, with one part of glucose broth. Development of the Klebs-Lœffler bacillus on this medium is so rapid that at the end of five or six, or at the longest, fourteen hours, it has formed grayish-white, elevated, rather opaque, colonies visible to the naked eye; and there is no other germ found in the mouth that will have had time to form colonies that could interfere with our recognizing these. When the growth thus obtained is inoculated on broth it produces, at the end of thirty-six hours, an acid reaction, and the growth occurs in minute, almost microscopic, masses without clouding the media. If material from any of these cultures be inoculated into a kitten, guinea pig or other susceptible animal, the animal will die from the effect; if the inoculation is

made in the trachea, typical diphtheria will result with false membrane, toxæmia, and death by intoxication with the tox-albumin, or by respiratory interference. If the animal survives, however, it frequently has the characteristic post-diphtheritic paralysis.

Considerable attention has been directed to a nonvirulent bacillus called the pseudo Lœffler bacillus, which closely resembles the bacillus of diphtheria and which, it is supposed, may be mistaken for it and lead to errors in diagnosis. The weight of opinion today, however, is that the pseudo Lœffler bacillus is a germ belonging to quite a different family from the Klebs-Lœffler, and that, owing to certain cultural differences, the two can be readily distinguished; and also that the Lœffler bacillus occurs very frequently on the throat in health or disease,

There is a germ, however, of more frequent occurrence which resembles the Klebs-Lœffler in all respects, except that it is not virulent. To properly understand the significance of the germ it is necessary to refer to some facts that we know about other bacteria. It is believed that bacteria are an earlier creation than animal or man. All bacteria, then, must have at first lived elsewhere than in the animal bodies, or, as that is technically termed, they must have lived as saprophytes. The ability to live as a parasite, or disease producer, is an acquired habit and not an essential part of the life history of bacteria, although with some the habit is so firmly fixed that it is impossible to make them grow otherwise than in the body. As has just been said, virulence in bacteria is a habit, and a habit which can be built up or lost by the surroundings in which the micro-organism is placed. To illustrate: It is known that the pneumococcus of Frænkel is often found in the mouths of healthy people, and that the only difference between the germ and that found in pneumonia is that one is very virulent to the lower animals and the other has very little virulence, Let us inoculate an animal with the germ taken from a healthy man's mouth. The animal will, if very susceptible, contract the disease, but in a mild form. The germ, however, in thus being inoculated into the tissues of an animal, and having to take on a disease producing habit, has accommodated itself to its new surroundings and has increased in virulence, so that if a second animal be inoculated from the first, the disease produced will be much more severe and death will take place sooner.

If now this virulent germ taken from the second animal be inoculated on artificial culture media, it will at first grow feebly, for it has not the habit of living except as a disease producer, but if other tubes of media be inoculated from this first tube, the growth in each successive one will be more luxuriant.

The germ, in thus forming a habit of living outside of the body, has lost its virulence, for virulence simply means the ability of a germ to overcome the vital resistance of the tissues, and; while living at their expense, to produce its disease. We have thus seen what is known to occur with the pneumococcus of Frænkel. There is a good reason to believe that the same thing takes place with the Klebs-Loeffler Bacillus, that these bacilli resemble the diphtheria germ in all respects, except virulence, are genuine Klebs-Loeffler bacilli which have lost their virulence, and that virulence is relative not absolute, so that all cases where they are found are suspicious; for when present on a throat, the resisting power of which is lowered, the non-virulent but genuine diphtheria bacillus may easily become virulent.

The principal points which I have attempted to put before the society are:

First. That every case of diphtheria can be quickly and accurately diagnosticated by the use of the microscope.

Second. That pseudo Loeffler bacillus is not a material obstacle to the certainty of the diagnosis.

Third. That every case where Klebs-Loeffler bacilli are present, whether virulent or not, is a suspicious case.

Strangulation of the Tonsils.

International Journal of Surgery.

Under the above name the author, Dr. Marcel (*Wien. med. Presse*), who is chief of the clinic for diseases of the nose and throat at Bucharest, describes the removal of the tonsils with the cold snare, which he has performed in fifty cases. He always makes use of a snare with three rings and without a screw, employing the same kind of wire as that used for removal of nasal polypi. In the after-treatment he recommends gargles of carbolized water, with addition of oil of peppermint. On the following day, in place of the tonsils is found a whitish exudation, and the patient experiences slight difficulty in swallowing, which may last from a few hours to two or three days. The wound is completely healed in the course of eight days.

On the ground of the fifty cases treated, the author formulates the following conclusions:

1. Strangulation of the tonsils by means of the cold snare is an easy procedure and attended by but little pain, even without the use of cocaine.

2. Although not the only method for removal of the tonsils, it is especially indicated for nervous children, and in cases of greatly enlarged tonsils.

3. This method is contra-indicated where the tonsils are incarcerated or extend too far beyond the faucial pillars.

4. The hemorrhage is often much slighter if the operation is performed slowly; at any rate, it is not more profuse than under the use of the tonsillotome or knife. It usually ceases within a few minutes; and should this fail to occur, it can be arrested by application of a small cotton tampon medicated with equal parts of iodoform and tannic acid.

5. The cold snare has the following advantages over the tonsillotome:

a, It is less likely to provoke fright in children.

b, It is a less costly instrument.

c, It can be more readily cleansed, and hence is more aseptic, especially if a new wire is used for every operation.

d, The removal of the tonsils is more thoroughly effected, although much less rapidly than with the tonsillotome.

6. The cold snare is to be preferred to the knife, because it requires the use of only one hand and does not produce injury of surrounding parts.

Further Reports of the Antitoxin Treatment.

Medical Record.

Reports regarding the use of the antitoxin of diphtheria continue to come in from all parts of the world. In Paris, Roux's serum has reduced the mortality fifty per cent. according to published statistics. In London "good results" have been obtained at St. Bartholomew's Hospital in cases not too far advanced. The investigations of the efficacy of the serum are, however, being conducted wich much secrecy, according to the *British Medical Journal*. Three kinds of serum are used, Behring's, Aronson's, and that made in London. Whatever the future results will be when the remedy is widely employed it has not yet been used enough to lessen the very large mortality from diphtheria in the city of London.

At Buda-Pesth, Professor Bokai has reported the results of the treatment of 35 cases of diphtheria with Behring's serum. The number of children who died was 5, giving a mortality rate of 14.28 per cent. Of the 30 children who recovered intubation was done in 12. Drs. Gottstein and Schleich, of Berlin, have attacked both the theory of the antitoxin treatment and the hospital statistics which have been quoted in its support.

At a recent meeting of the Medical Society of Munich, which was attended by more than three hundred practitioners, the serum treatment formed the subject of a prolonged discussion. Professors Buchner, von Ranke and C. Seitz presented a report

on the subject, and resolutions were passed to the effect that the time was not yet ripe for a definite judgment as to the value of the method, and that trials of the remedy on an extensive scale would be necessary to settle the question. It was considered important that this view should be impressed not only on the profession, but on the public. A committee, consisting of Professors Buchner, von Ranke, Bollinger, Oertel, C. Seitz, von Kerschensteiner and Wertheimer was appointed to study the whole question thoroughly.

In France the War Department has authorized the antitoxin treatment in the army; the cities of Lille and Havre have voted money for undertaking the new treatment.

In Belgium a sero-therapeutic service has been organized in Brussels, and similar work has been begun in Milan, Piacenza, Turin, and at Lisbon.

In this city the Board of Health has already begun to prepare the serum, and a plant is being established in Washington under the direction of the Marine Hospital Service.

Avian Diphtheria and Angina in Man.

Loir and Duczoux, ref. in Brit. Med. Jour.: Epit.; II. 1894; p. 521.

The rearing of fowls has been almost abandoned in Tunis owing to the enormous mortality caused by a disease characterized by the formation of false membranes in the throat. Experiments made in the Bacteriological Institute of Tunis showed that the disease was due to a small bacillus present not only in the false membrane, but in all the organs and tissues, and quite different from the true bacillus of human diphtheria (Klebs-Loeffler). The bacillus has rounded extremities and is mobile; on gelatin it gives a creamy-white streak, on agar-agar a grayish-white streak (at 30° C.); on potatoes at ordinary temperatures an abundant yellowish-white growth. In bouillon at 35° to 40° C. it grows rapidly, and renders the liquid turbid, yielding finally a viscous whitish deposit. In stab cultures it gives a small whitish growth. It is both aerobic and anaerobic. It is easily stained by ordinary methods, but not by Gram's. It is killed by a temperature of 60° C. Heated to 55° C. for half an hour, its virulence is attenuated, and it can be used for vaccinating fowls. Among persons attending to fowls in Tunis a large number of cases presenting symptoms of diphtheria occur. Loir and Ducloux have made a bacteriological examination of six such cases, and in one, a child suffering from severe angina, with false membranes, which were neither very thick nor very adherent, they found the bacillus which they had observed in fowls. The child resided on a farm where the fowls had been suffering from diphtheria for six months.

An Attack on the Diphtheria Antitoxin.

Medical Record.

A paper of the greatest interest and importance was read at a recent meeting of the Berlin Medical Society by Dr. Hansemann. The paper carries especial weight because the author is announced as an assistant of Professor Virchow's, and his work and conclusions are presumably indorsed by the dean of modern pathology.

Dr. Hansemann comes out in flat contradiction of the alleged properties and powers of the Behring immunizing serum. He asserts that in Bretonneau's diphtheria the Loeffler bacillus is not always present, and is not its sole cause. This view will appeal to some clinicians and bacteriologists at least, for it is admitted that the Loeffler bacillus is present in some very mild cases of diphtheria as well as in apparently healthy throats, while, on the other hand, it is also known that a streptococcus diphtheria (or sore throat) is sometimes extremely severe and dangerous.

Dr. Hansemann asserts that Loeffler's bacillus is found constantly in rhinitis fibrosa, without producing diphtheria, and that these alleged pathogenic microbes may mul-

tiply in the throat without modifying the course of the diphtheria. All this, we believe, will have to be admitted by pathologists who have without bias studied the disease. Dr. Hansemann asserted further that in the case of animals an injection of a Loeffler bacillus culture caused not diphtheria, but a disease *sui generis*, the Loeffler bacillus disease; that epidemic diphtheria had never been observed in animals; that guinea-pigs, in contact with diphtheria patients had never taken diphtheria; but that a case is known where a cat, with which a child suffering from diphtheria had played, had developed all diphtheria symptoms, without, however, any Loeffler bacilli being discoverable.

He then proceeded to describe the three qualities claimed for the antitoxin—namely, its therapeutic action, its harmlessness and its immunizing power. He said that the present statistics give an erroneous impression (as already shown by Gottstein in his recently published pamphlet), as many children suffering from lighter forms of throat complaints are now sent to the hospitals to be treated with serum, thus swelling the proportion of cured cases, which would, he said, otherwise not be higher than the usual average. He said that the serum injections could by no means be considered harmless, as affections of the kidneys had frequently followed—in one case more severe in type than had ever yet been observed after diphtheria. He said that it was clear, from Behring's new directions to increase the immunizing dose from sixty to one hundred and fifty unities, that no results have yet been achieved as far as immunizing goes.

The final criterium of the efficacy of the antitoxin treatment is clinical experience. Even if Hansemann's pathology is correct, therefore, it will make no difference provided the diphtheria patients get well.

The difficulties in estimating exactly the value of a new therapeutic procedure which comes loudly heralded and solidly indorsed are very great. Unusual attention is paid to every patient, greater watchfulness, more thorough supervision, and earlier diagnosis and treatment are always found. These factors must all be considered in estimating the results of the serum treatment.

It would be not only a disappointment to all well-wishers of humanity, but would be a serious blow to the rising prestige of medical science, if, after all, the serum treatment should fall short of its high expectations.

Diphtheria and Antitoxin—A Protest.

BY S. F. AYRES, M.D., LOUISVILLE, KAS.

Nearly every medical journal of to-day contains the claims of the marvelous cures of diphtheria with antitoxin. The secular press, not to be behind when anything new has arisen, have educated the laity until they can tell you all about the new cure, and insist upon its trial in their families if afflicted with sore throat. Believing there is a wrong impression in regard to this so-called specific, both by the laity and the profession, I desire to enter my protest—a protest based upon a careful reading and analysis of the socalled cures by this new agent. Where this treatment is given all cases of sore throat where Loeffler's bacillus is found are treated as diphtheritic and antitoxin given the credit of the cure. This notwithstanding the fact that Dr. Hansemann, Prof. Virchow's assistant, comes out claiming that Loeffler's bacillus is found in other throat troubles aside from diphtheria, aud again in cases of true diphtheria they are found wanting.

In a series of cases reported in the *American Journal of Medical Sciences*, as treated with antitoxin the treatment was combined with the iron and mercury treatment and antitoxin given the credit for the cures. Is this fair or just?

I have taken considerable pains in finding out the treatment as followed by country physicians (the bone and sinew of the profession) who have gained a reputation in their respective localities for being successful in the handling of this dread disease. Their treatment almost universally is the

chlorate of potassa, iron and mercury plan. Dr. Waugh, in *Medical Brief*, with substantially this treatment says he has not lost a case of diphtheria in ten years. If antitoxin is the great cure claimed for it, don't combine it with our old tried friends, iron, potassa and mercury, taking the credit from them.

The physician who calls all sore throat—malignant and non-malignant—diphtheria, of course will have a large per cent. of cures with any good treatment. It is sincerely to be hoped that antitoxin will not take its place on the back shelf with the Elixir of Life, but will prove itself all that its friends claim for it, but we must decidedly have more proof of its utility than has been produced yet or it will go.

Sore Throat.

Dr. Cline, in an article on "Sore Throat Due to Concretions in the Tonsils," in the *Hot Springs Medical Journal*, says:

Every experienced practitioner of medicine can recall some cases of recurring tonsilitis or sore throat that often developed without any apparent cause, but which were doubtless due to chronic inflammation of the follicles, altered and retained secretions.

The soft or cheesy deposits vary in size from that of a pin head to a grain of wheat, and consist of epithelium, pus-corpuscles, bacteria and chalk. These troublesome concretions are found more frequently in the small tonsils or where there is scarcely any tonsil to be seen, for the reason that in the larger tonsils there is more pressure brought to bear on them and they are kept squeezed out.

Concretions are doubtless the result of a catarrhal condition of the mucous lining of the follicles, coupled often with a uric acid diathesis. Some writers believe them to be parasitic in origin. The leptothrix doubtless has something to do with the development of these cheesy deposits. These bodies excite recurrent attacks of inflammatlon, and when long retained the carbonate and phosphate of lime are deposited, from the blood, about the cheesy mass, which finally results in the development of a calculus.

As a rule they occur singly, although there are sometimes several found in one crypt. They give rise to repeated attacks of sore throat with a pricking or sense of irritation in the fauces, with a desire to clear the throat of some offending substance, but nearly always without avail. In some cases there is a persistent hacking cough with a sensation of a hair or fish bone imbedded in the tissue. But the most common of all complaints is the foul taste and odor they get on dislodging one of these bodies from its bed, and which often causes the patients to be misled through ignorance or intention to believe they have tuberculosis.

Concretions predispose to attacks of quinsy and, in my judgment, are the cause of the majority of these cases, and they can be permanently cured by carefully hunting out and destroying all the crypts and pockets in which these bodies are formed.

Treatment of Whooping-Cough.

Dr. G. Variot (*Medical and Surgical Reporter*) has obtained notable advantages in the treatment of pertussis by the administration three times a day, in a little sweetened milk, of a tablespoonful of the following:

℞

Aq. dest.	ʒ 8
Potassii bromidi.	ʒ 2
Tinct. valerian.	ʒ 2

In children below two years a teaspoonful will suffice. An hour after this dose he gives a teaspoonful of the syrup of turpentine. The turpentine acts as a balsamic and the other drugs as antispasmodics. The presence of rales in the chest indicates ipecac in the powder form, a dose every morning to favor expectoration. Keep the child in the open air while there are no serious broncho-pulmonary symptoms. As a diet keep the child on albuminoids and meat, eggs, raw meat, extract of beef, etc., to which may be added some tonic, as wine of cinchona or the syrup of the lactophosphate of lime.

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The Specialist and the General Practioner.

The rapid growth of specialism during the past decade is a source of considerable alarm to those who claim to be interested in the welfare of the general practitioner. One of these goes so far as to say: "The family physician is nearing his extinction, being supplanted by the specialist." This same writer also characterizes the specialist as the representative of medical mercantilism. The time was, and not many years ago, that every innovation was regarded with horror, and improvement and ruin were synonymous. This time, it seems to us, should long since have passed, and each era of improvement should be welcomed with enthusiasm. Specialism is not simply a result of the tendency of the times, nor is it in any sense a social necessity, but it is a most natural result of the broadening and perfection of scientific knowledge. Every invention, every discovery that has proved of great and lasting benefit, has at some time been regarded with suspicion and distrust by a large part of the civilized world. So it is in medicine—those men who are slow to advance, who rely upon their time-honored classical embellishments rather than an accurate scientific knowledge of medicine for success, naturally see in the increased number of colleges and hospitals, in the advent of microscope and culture tube, and the rapid perfection of means and methods of diagnosis—they see in this new medical world nothing but the domain of commercialism. The human mind is limited in its scope. At one period it was possible for one mind to comprehend all the intricacies and details of the science of medicine. It is impossible now, not because mind has deteriorated, but because the field of medicine has widened and developed beyond our horizon. It is so vast that though we may catch a glimpse of it all, it is only within the narrow boundaries of the territory on which we stand that we can appreciate the details. The family physician has lost none of his prestige by the advent of the specialist, but the latter has opened up a field for himself. Those cases of catarrhal conjunctivitis which were treated by the blue stone and collirium before the advent of the oculist still exist, and are still treated by the family physician. It is the intricate diseases of the eye, for the pathology of which we are indebted to his special study, that are referred to the oculist for treatment. Before the rhinologist was in vogue catarrh was considered an incurable disease, and few sufferers from this affliction were treated at all. The family physician does as much surgery as he ever did, and is as competent, but to the specialist surgeon we owe the discovery that many of the supposed inoperable cases are by modern methods curable. The family physician owes much of his present knowledge of the pathology of diseases of special organs, and the perfected

technique of surgery, to the special study of those who have devoted their time to these particular branches of medicine. Those time honored classical embellishments of ancient medicine may have been supplanted by the materialistic tendencies of our modern civilization, but the humanistic qualities of the profession have been enhanced thereby. Certainly the more accurate our knowledge of the pathology and treatment of disease the more capable we are of relieving human ills. The extinction of the family physician has not even begun. We anticipate no change in the present status of the family physician till such time as the science of prevention may have supplanted all necessity for therapeutics. Till contagious and infectious diseases have become extinct and pain and suffering are no longer known. Till such time arrives to him who follows our footsteps from the cradle to the grave, who has ushered us into the world and will lighten the pangs of our departure; to him we owe our greatest respect and our highest honor—the family physician.

REMEMBER that we will furnish you the JOURNAL for one year and Helbing's Modern Materia Medica for $2.50.

Golden Belt Medical Society.

Few more interesting medical meetings have been held in the State than that of the Golden Belt at Junction City last Thursday. There were only about twenty members in attendance, but these were evidently there to derive all the benefit they could from the papers and discussions. Papers were presented as follows:

"Pneumonia," W. E. Fowler.

"Typhoid Fever," P. Dougherty.

"Angio-Neurotic Œdema," W. S. Lindsay.

"Cancer of the Stomach," W. J. Felty.

Dr. Neptune presented a paper on Icthyosis, with report of a case.

As it is impossible to make a complete report of the meeting, we will simply note a few of the things said in the discussion of papers:

Pneumonia.— Dr. Roberts thought he had been able in several cases of pneumonia to abort the attack by large doses of veratrum.

Dr. Felty thought, from his observation and experience, that cases of pneumonia frequently aborted themselves without treatment.

Dr. Daugherty thought pneumonia was an acute specific disease, which ran a regular course and was not particularly affected by any treatment.

Dr. Lindsay reported on case presented to society: Woman who had had choreic movements for twelve years. Has two brothers similarly affected. Trouble began in hands and feet and spread over entire body. It never has been limited to one side; has never been benefited by treatment. Father and mother died suddenly at about 50 years of age; don't know the cause; over left eyebrow there is a depression of skull caused by kick of horse at eight years of age; she has had no convulsions, and there is no indication of a connection of this injury with present trouble. There is pain over right eyebrow; no tenderness over spine. Recommended nutrients and Fowler's solution in increasing doses. Should contraction become so great as to disturb rest, recommend hydrobromate hyoscine. We regarded it as a motor disturbance and hereditary.

Dr. LaFevre thought chorea was probably an infectious disease. He referred to an endemic of chorea which occurred in a school. There have been investigations along this line, and though nothing definite was determined, some problematical conclusions were arrived at.

Dr. Lindsay thought it was contagious, but not infectious, and the contagion was not due to a specific germ, but to a psychical effect.

Dr. Neptune read a paper and presented a case of ichthyosis hystrix:

Dr. Lindsay said this was in his opinion not a local disease. It was a result of an affection of trophic nerves by which there is

a piling up of tissue at this point. No amount of removing here would be of benefit. The origin is at the trophic and vasomotor centers in the medulla. I don't think this is of the character of myxœdema; it is not brought about by changes in the thyroid or condition of blood, but is rather of central origin.

Dr. Felty said he thought Dr. Neptune was correct in his diagnosis, and also that it was of nervous origin, The character would indicate this rather than another theory,

Dr. Sheldon thought we ought to go still further and show why it is thus from the family history. We find father had a necrosis of bones of leg, with shortening, and that a sister of his had tubercular trouble, and I believe that the origin of the trouble is in a tubercular infection. If the theory of Dr. Lindsay is correct, and I believe it is, is it not possible to build up this cell tissue by employment of celluline, cerebrine, or something of such nature.

Dr. LaFevre thought it was not of tubercular origin. If it was, why would we not have the ordinary tubercular skin affection of tuberculosis.

Dr. Felty reported three cases of cancer of the stomach and the autopsies. In none of these cases had cancer been positively diagnosed and in two of them the symptoms were so remote that accurate diagnosis was impossible. The absence of free hydrochloric acid as a diagnostic sign was contradicted in one of these cases. Dr. Felty said this occurrence of free acid had been explained by the discovery that where there had been primary ulcer at the seat of the tumor free acid was usually found. At the autopsy in one case the stomach was found to contain a half gallon of fluid in its greater curvature; in another case the capacity of the stomach was only three ounces. Dr. McClintock stated that the capacity of his father's stomach, both during life and at the autopsy was only two ounces.

Dr. King reported a case in an alcoholic drinker, where there had been inability to retain food, pain and nausea. There had been no hemorrhage, and the dyspeptic symptoms were most prominent. Autopsy showed a contracted stomach adherent to the spinal column and overlapping colon, which was very much narrowed, the opening through the tube being no larger than the little finger.

Dr. McClintock said he believed there were a great many errors in diagnosis of cancer of stomach. Physicians study typical cases but they seldom find them. They expect to find tumors, but they are found in only from 20 to 40 per cent. of the cases. They rely upon hemorrhage, pain and vomiting as necessary symptoms. Cases occur in which there is no vomiting of blood and in which there is no vomiting of food, and these symptoms only indicate a stricture of the pylorus or a dilation of stomach. If cancer occurs at greater curvature you may not have vomiting. It is a difficult matter to make a diagnosis in these cases. It was not always possible even by exploratory incision to determine the nature of the disease.

The concensus of opinion was that no case of recovery by operation had ever been reported.

Dr. Felty said death was the result of inanition from lack of absorbing tissue in the stomach, and an operation for removal of diseased structure would hardly relieve these conditions.

Dr. Sheldon reported the case of Dr. Paddock to illustrate the liability to mistake in diagnosing these cases. It had been examined by a number of prominent physicians and it seemed that each consultant had a different opinion of the case. Autopsy showed a carcinoma.

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DR. R. HARVEY REED has resigned his editorship of the *Railway Sargeon* to axcept a similar position as editor of the *American Academy of Railway Surgeons.*

The Treatment of Typhoid Fever.

Medical Review.

Of all the branches of the medical sciences it is hygiene upon which we have to look as the most promising study and the branch of medicine to which belongs the future; for, notwithstanding the great progress that has been made within the last few decades in the etiology of diseases, the treatment in many instances is not much further advanced than it was several decades ago. We still have to rely more upon scientific nursing than upon the healing powers of drugs, and in many instances the patients will do better without any medication whatever, excepting, perhaps, when it is used for the psychical effect upon the patient. The rules laid down by Sir William Gull could not be improved upon at the present day. Gull's views with regard to the treatment of typhoid fever were as follows: 1. Typhoid fever is a disease which runs a more or less definite course. It cannot be stopped or cured by medicines. 2. The chief thing to be done at the outset of an attack is to send the patient to bed, so as to save strength from the beginning. 3. No strong purgative medicines are desirable. 4. As the fever develops and the strength grows less, light food should be given at short intervals—i. e., water, toast water, barley-water, milk and water, light broths (not made too strong or too gelatinous). 5. If there be restlessness or much agitation of the nerves, wine (port, sherry, or claret) or brandy in moderate doses at short intervals. This must be directed medically, but in general it may be said that the amount required is that which induces repose and sleep. 6. The bowels may be left to themselves. If unmoved for twenty-four or thirty-six hours a lavement of warm water may be necessary, but this will be directed medically. 7. The restlessness or wakefulness in fever is best remedied by the careful giving of wine or spirit with the food, or in hot water. Sedatives such as opium are inadmissible—mostly injurious. 8. The bedroom to be kept at a temperature of 62° to 65° F. 9. Great care is necessary to keep the bed clean and sweet. This is most easily done by having a second bed in the room, to which the patient can be removed for two or three hours daily, while the other is thoroughly aired and the linen changed. 10. All fatigue to be sedulously avoided. No visitors admitted, and no other person but a nurse and one attendant to help her. 11. Patient's room never to be left unattended for a moment, as in the delirium of fever patient may jump from the bed and injure himself. 12. As to medicines and the treatment of complications, the immediate medical attendant must be responsible. 13. As it is possible that the discharges from the bowels in typhoid fever may be a source of contagion, it is desirable that before being thrown down the closet they should be largely mixed with Condy's fluid or some other disinfectant. On the same principle the strictest cleanliness must be observed in the sickroom. 14. There is no reason to believe that typhoid fever is contagious from person to person, in the ordinary way. The largest experience shows that it does not extend, like an ordinary contagious disease, to nurses or others attending upon patients suffering under the disease.

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The Therapy of Phlebotomy.

The Times and Register.

Homœopathy took the field, the dogma of infinitesimals was promulgated, to be closely followed by another, as a necessary sequence, viz.: that disease is self-limited, or in other words, that nature unaided is capable of effecting a cure, provided she is not too much hampered by those who would replace her processes by artificial means.

The teachings of the revered Sydenham, of Broussais and Louis, were cast aside with

contempt. Emesis, catharsis and phlebotomy, as resorted to by a late generation of practitioners, the modern physician knows practically little of, except from a historical standpoint.

Diagnosis has been rather overcultivated, the secret processes of deranged physiology have been well mastered, but on the side of medical therapeutices, the cure of disease through constitutional remedies, we have lagged far behind.

Too much time has been spent with the student on pathology and not enough on the clinical side of medicine.

What proportion of our American graduates know how to perform a venesection, to cup and scarify or apply leeches? Probably none are taught how to do those things in their student course in college; yet, who that has any practical knowledge of the effects of the abstraction of blood, can deny its marvelous potency?

The venerable Verneuil lately declared, in the French Academy of Medicine, that since the lancet and wet-cups have been cast aside in pleurisy, and the Dieulafoy-aspirator had come into use, the mortality has enormously increased; from the early stages of this malady blood letting, local or general, acts like magic. And, in the premonitory stages of puerperal convulsions, associated with renal congestiou, it is by all odds the safest and most reliable remedy.

It has not been the use, but the abuse of blood-letting, which has made it unpopular. Fashion is the curse of medicine. In the near past it was almost criminal to operate, without saturating the healthy nude tissues with powerful irritants. The antiseptic theory was overdone.

Let blood-letting be revived and employed with judgment and discretion.

Antiseptic Treatment of Burns.

Monatshefte fur Praktische Dermatologie, August, 1894.

Wilbouchewitch (Dissertation, Paris, 1893) concludes an article with the above heading in the following wise:

1. Fresh, superficial burns, as well as deep ones, can heal under antiseptic treatment without the production of pus.

2. If pus is produced, the wound is disinfected, and the course remains the same as if non-infected. But if the pus is of long standing and the wound begins to granulate, then disinfection is not possible.

3. To disinfect widespread burns an anæsthetic will often be necessary, and to this end chloroform is best suited.

4. If the wound is non-purulent, the unnecessary use of an antiseptic hinders the healing process.

5. Antisepsis is the best analgesic.

6. Burns heal rapidly under the antiseptic treatment. Burns of the second degree require eight days; of the third degree, from two to three weeks.

7. Burns of the second and third degree heal without trace remaining; of the fourth degree, cause a scar, which does not retract, while this will be smoother the less the amount of pus.

The Treatment of Surgical Tuberculosis by Hot Water.

The Times and Register.

Dr. M. Jaeunel, in *La Semaine Medicale* for October 3, 1894, gives an interesting account of his success by the use of hot water in tuberculous abscesses and in lesions of the bones and articulations. The technique is described as follows: "After having a tuberculous cavity cleared, the fistulous tracts are freely opened, the soft parts, bony elements or diseased joints are thoroughly curetted. All caseous, fungous material being cleared away, the part is sponged dry and all bleeding controlled. Now the parts are rinsed freely with sterilized water and again dried. Then, through a narrow tube, a small quantity of boilng water is injected. When the cavities are filled they are drained and filled again, until the affected tissues are thoroughly cauterized."

Another method of applying this method —par l'ebouillantement—is to fill the cavity with warm or cold water, then immerse

for a moment in it the tip of a thermo-cautery iron, red hot. One teaspoonful of water so boiled will suffice for an abscess as large as a pullet's egg.

The pain is so acute that general anesthesia is usually required, though for a local superficial lesion cocainization will suffice.

For a time reaction is intense, but usually after the first day all pain passes off. For a few days succeeding the operation there is an abundant discharge of fluid detritus and serous matter, necessitating the frequent change of dressings. Union is usually rapid and the cure permanent.

Boiling water in certain cases is to be preferred to the dry cautery, because of its greater penetrating action and ready accessibility.

Asexualization and Crime.

The Medical Age.

Dealing with criminals of a certain class by emasculation and ovariotomy respectively is discussed by Dr. Robert Boal in the *Journal of the American Medical Association.* He concludes:

The surgical unsexing of all criminals convicted of offenses that indicate constitutional depravities that are admissible by heredity is both expedient and practicable, and the penalty should be applicable to both sexes.

Most of the offenses against society by vicious and defective classes originate in sexual disturbance, whether in deprivation or excess:

It would limit the reproduction and transmission by heredity of the defective and criminal classes:

Likewise inflict a penalty terrifying and abhorrent without destroying life:

It is applicable to offenses against person or property originating from other than sexual causes;

The punishment is neither cruel nor vindictive:

Finally, it is more effectual in changing and improving the nature of the criminal than moral instruction or confinement in prisons or houses of correction.

Such a measure would certainly reduce the number of hereditary criminals, and criminal instincts are unquestionably hereditary. The great obstacle would be the difficulty of getting it upon the statute books.

Mechano-Therapy in Chronic Diseases of the Heart.

The Mherapeutic Gazette.

In the *Practitioner* for August, 1894, Eccles writes an article on this subject. He believes the rationale of the treatment of certain chronic diseases of the heart, by a combination of rest, massage, assisted and resisted exercise, followed by out-door walking carefully graduated, is based upon—

1. The rest afforded to the overstrained or enfeebled heart by the adoption of the recumbent position for a time.

2, The aid given to the circulation by the mechanical centripetal pressure exercised on the limbs and trunk by massage.

3. The more rapid oxygenation induced by the acceleration of the circulation, and the diminution of peripheral resistance by the same means.

4. The improvement in general nutrition, the elimination of waste products, and the increased metabolism induced by the passive and active exercises in and out of doors.

5. The careful preparation and selection of suitable food, coupled with the aid to digestion afforded by abdominal massage and exercises acting directly on the walls of the abdomen and exercising pressure on its contents.

6. The substitution of regular, graduated, assisted, and resisted movements for the spasmodic and ill-regulated exercise taken by patients suffering from cardiac functional disturbance, with or without organic lesion.

NUTRITION is the treatment in tuberculosis.